DOCUMENT RESUME

ED 194 006 HE 013 218

TITLE	Differing Perspectives on Declining Faculty Salaries. Current Issues in Higher Education, No. 3, 1980.
INSTITUTION	American Association for Higher Education, Washington, D.C.
PUB DATE	17 Sep 80
NOTE	26p.: Papers presented at the Annual Meeting of the American Association for Higher Education (Washington, DC, March 1980).
AVAILABLE FROM	American Association for Higher Education, One Dupont Circle, Suite 780, Washington, DC 20036 ($3.50)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	*College Faculty: Comparative Analysis: *Compensation (Remuneration): *Economic Factors: Higher Education: *Income: *Multiple Employment: Professional Personnel: Teacher Employment: Teacher Morale: *Teacher Salaries: Trend Analysis

ABSTRACT

The economic position of college faculty, effects of declining faculty salaries, and different methods for comparing faculty earnings and those of other professions are considered in two papers. In "How Well are Faculty Paid? Implications of the Academic Reward Structure," Kristine E. Dillon and Robert H. Linnell consider the following problems associated with making an assessment of total faculty earnings: comparable bases of earnings, comparison across occupational groups, accurate measures of inflation, and appropriate compensation data. It is suggested that total income sources, including supplemental earnings and summer work, should be used in making occupational income comparisons. It is proposed that institutions need to devise reward systems that are year-round and account for multiple faculty income sources. In "The Economic Decline of the Professoriate in the 1970's: What Happened to Faculty Salaries and What Are the Implications?" Peggy Heim presents data on the economic position of faculty in the 1970s and discusses the implications of the erosion in faculty salaries for higher education as a whole, for the institutions, and for the people in them. It is suggested that one major effect of declining salaries relative to the general price level and relative to those of other professions is to discourage the entry of able people into college faculty positions. Additional outcomes are poor morale, moonlighting for supplemental earnings, and attempts to improve conditions through collective bargaining. (SW)

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1980 NO. 3

Current Issues In Higher Education

Differing Perspectives on Declining Faculty Salaries

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The papers presented at that meeting form the basis for this publication. These papers were reviewed by a committee of AAHE members and 17 were selected for publication in this series. They have been grouped into six volumes published serially. Each volume focuses on one aspect of the quality improvement problem: improving teaching; the role of two external agencies; declining faculty salaries; new models for general education; the contributions of adult development theory; and national, state, and institutional strategies for retrenchment.

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Current Issues in Higher Education
Vol. 2, No. 3
September 17, 1980

Current Issues in Higher Education (ISSN 0070-1971) is published six times a year—weekly from the first week in September through the second week in October—by the American Association for Higher Education, One Dupont Circle, Suite 780, Washington, D.C. 20036 (202/293-6440). AAHE members receive the publication as part of their membership fee; $9 of the fee covers the subscription cost. Subscription price for nonmembers is $15.

Application to mail at second-class postage rates is pending at Washington, D.C. POSTMASTER: Send address changes to American Association for Higher Education, One Dupont Circle, Suite 780, Washington, D.C. 20036.

Differing Perspectives on Declining Faculty Salaries

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Peggy Heim

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Foreword

A conference theme of "Improving Quality During Hard Times" could not avoid discussion of salaries. If faculty salaries do not measure up to other professions, will the most capable choose nonacademic careers or put together such a patchwork of income sources that their primary responsibility to the institution will be diluted, and the quality of teaching suffer?

The two papers in this monograph attempt first to document the extent of the decline in faculty salaries. They can be read alone or in conjunction with the "Annual Report on the Economic Status of the Profession" published by the American Association of University Professors in the September 1979 issue of *Academe*.

While the authors of both papers agree that faculty base salaries have declined in buying power, they differ on how to make comparisons between faculty earnings and those of other professions. Peggy Heim uses the same method as AAUP—a standard academic year basis, excluding summer teaching, research, and extra load payments. On the other hand, Kristine E. Dillon and Robert H. Linnell include other income sources, citing research that found that more than 80% of all faculty receive supplemental earnings. Linnell and Dillon feel that the traditional ways of drawing occupational comparisons—such as those relied on Heim and AAUP—use only part-time earning figures and hence make academic earnings appear lower than is actually the case. Basing comparisons on full-time figures, faculty earnings compare much more favorably with other occupations, they say.

What are the implications of the decline? Heim focuses on the loss of talent to other occupations, morale problems, collective bargaining, and moonlighting, all of which detract from the quality of teaching and research. Dillon and Linnell believe that more is needed than just a boost in faculty salaries: more institutions need to devise reward systems that are year round and account for mutiple faculty income sources (salaries, overload, summer and outside work), so that the current income patchwork becomes more intentional and recognizable.

How Well Are Faculty Paid? Implications of the Academic Reward Structure

Kristine E. Dillon and Robert H. Linnell

From the vantage point of 1980, it is clear that tremendous growth in higher education in the 50's and 60's created an unprecedented increase in faculty positions and a market that encouraged the production of increased numbers of qualified, would-be academics. What is not clear is how the expectations engendered during that period can be fulfilled or satisfactorily revised, given the increasingly austere view higher education has of its future. Contrasting with the 60's, when competition for relatively scarce faculty resulted in higher salaries, better fringe benefits, and more attractive working conditions, the 80's appear to offer fewer opportunities to the prospective (or current) academician. Faculty salaries during the 50's and 60's outpaced the cost of living by about 65% (Bowen, 1978). The 70's provided a salary curve that did not quite keep up with the cost of living (Bowen, 1978), and the difference between faculty salaries and the Consumer Price Index (CPI) is apparently widening (Hansen, 1979).

One element that creates confusion in assessing faculty compensation is the nine-month basis of academic employment. Should faculty salaries be viewed as full-time or part-time (three-quarter year) earnings? For those whose finances are derived exclusively from basic (academic year) university salary, earnings are clearly not faring well in the face of inflation, as demonstrated by Bowen (1978) and Hansen (1979). However, most faculty members do not depend exclusively on basic institutional salaries as their total earnings. This is indicated by analysis of the 1975 Ladd-Lipset survey data which show 85% of all faculty earn some supplemental income (Marsh and Dillon, 1980). Clearly there is a need for an assessment of total faculty earnings, their sources and influences on faculty behavior, and the economic viability of the faculty position when all professional earnings are included. The problems associated with making this assessment are the focus of this paper. From our standpoint, these problems include determining: (1) comparable bases of earnings comparison across occupational groups; (2) accurate measures of inflation; and (3) appropriate compensation data.

Most typically, earnings data examined are those collected by the American Association of University Professors (AAUP) in conjunction with the National Center for Education Statistics (NCES). These data reflect each institution's average base salaries by rank and report all salaries on a nine-month basis, converting any twelve-month earnings to their proportional nine-month amounts. Thus, the standard basis for assessing academic earnings intentionally excludes all summer and overload or override salaries paid by institutions, as well as external consultantships, book royalties, etc.

Kristine E. Dillon is associate project director and Robert H. Linnell is director of the Office of Institutional Studies at the University of Southern California.

In a recent and comprehensive assessment of the status of academic compensation, Bowen (1978) relied upon AAUP data, as well as other sources, to establish an historical record of faculty salaries and compensation. As he notes, inadequacies in these data are in no sense attributable to those who collect them. The data collection has traditionally been undertaken primarily for the purpose of inter-institutional comparisons. As the whole of higher education finds itself in a depressed economic state, attempts have been made to use these traditionally-collected salary data in comparisons with the earnings of those working outside academe. However, these data can be misleading when used to answer the question, how well are faculty paid?

When comparisons rely upon nine-month academic earnings, it is clear that academicians are usually not competitive with outside professionals. However, total faculty earnings are usually higher than nine-month salaries indicate and they compare more favorably than is generally reported. In a comparison based upon data from the Census "Current Population Survey" for 1977, faculty were centered close to average earnings for 16 groups of occupations (Dillon and Marsh, 1980).

The comparison group included individuals with jobs classified as professional or management who had completed six or more years of college and worked at least 35 hours a week for a minimum of 40 weeks during 1976. This sample was selected because it included nonacademics with characteristics most

Table 1: Mean personal earnings in 1976

	Occupation	*Mean*	*Number*
1.	Health practitioners	$36,187	318
2.	Lawyers and judges	28,175	234
3.	Managers and executives	24,718	335
4.	Engineers	24,332	134
5.	Accountants	21,713	39
6.	University and school administrators	21,378	161
7.	Scientists	21,054	72
8.	College faculty	19,840	237
9.	Social scientists	19,030	59
10.	Technicians	18,896	63
11.	Social and recreation workers, counselors	15,750	96
12.	School teachers	14,982	427
13.	Librarians and curators	14,277	35
14.	Artists and entertainers	13,995	47
15.	Health workers	13,634	46
16.	Clergy and religious	10,418	101
	Total group	22,133	2,404

College faculty median $18,286
Total group median $18,612

Source: Dillon, Marsh and Cooper, 1979

comparable to faculty's. It is clear from Table 1 that professions such as medicine and law (with very high earnings) raise the overall group mean. However, the median (or midpoint earnings figure) for the total group is very close to the median for college faculty.

The American people in general are experiencing wage gains that are less than inflationary increases. The private non-farm sector experienced an average wage gain in 1979 of 8.7%, compared to the CPI increase of 13.3%, which yields a net loss of 4.6%. For 1978 the comparable wage gain was 7.7%, the CPI increase 9.0%, so the loss was 1.3%. Some breakdown by occupational groups of the 1979 data is useful for comparison: manufacturing 8.6%; construction 7.2%; wholesale/retail 7.9%; insurance, finance, and real estate 13.2%; all white collar 8.6% (clerical 9.4% and manager/administrator 7.4%). It should be noted that the *only* persons with a wage gain equal to the CPI increase in 1979 were the insurance, finance, and real estate people, which is not hard to understand!

NCES/AAUP reported the base salary increase for continuing faculty from 1977-78 to 1978-79 was 7.4% for all institutional categories. This is exactly the same as the 1979 wage increase for the "white collar manager/administrator" category. (Strictly we should correct for the time span since academic salaries are September 1 through August 31 and the data given for all other groups is for the calendar year 1979. The correction would make the faculty salary increases *more* favorable.) Reference to other professional groups indicate that most are reporting their real earnings are declining when increases are compared to the CPI. Thus, although it may not be entirely comforting, faculty salary increases are more typical than unique in falling behind the CPI.

One other important point concerns the basis of CPI. A very good case can be made that the technical basis of the CPI is an important contributor to inflation. About one-quarter of the population has some income indexed to the CPI (Social Security recipients, federal and military retirees, many wage earners' union contracts and some informal agreements). If the CPI overstates inflation, as we will argue, then this vast group receiving CPI-indexed wage increases will be given *larger* increases than required to meet inflation which, in turn, will cause additional inflation.

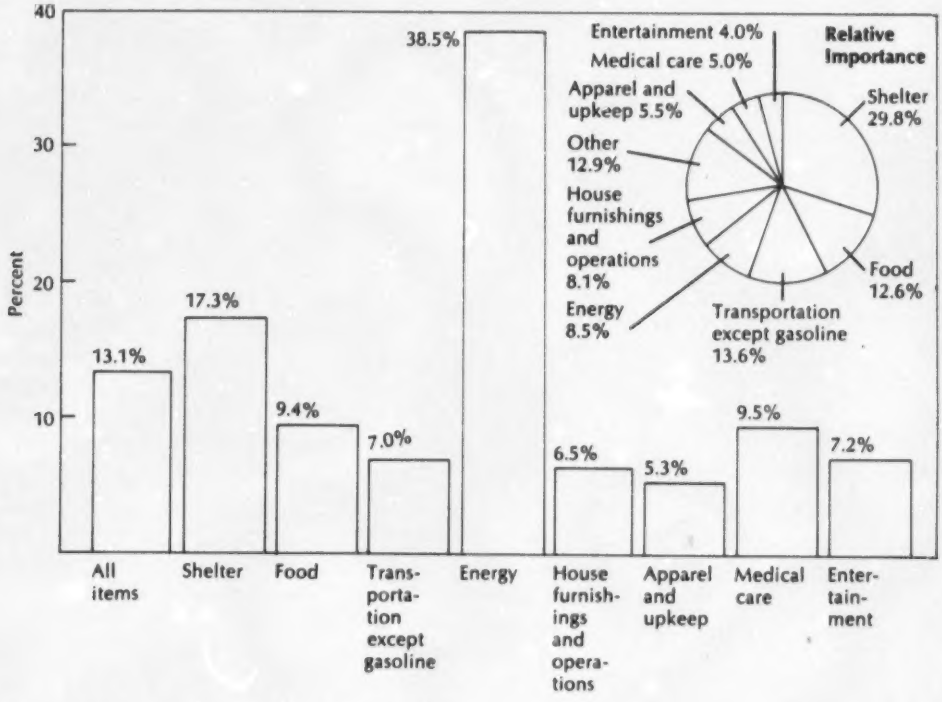
How does the CPI overstate inflation? There are two major factors: (1) The use of consumer expenditure patterns of 1972-73; and (2) the way the index treats the cost of purchasing a home. Consumption patterns are not static, they change with time, and there is absolutely nothing sacred about any particular year such as 1972-73. Consumption patterns change for many reasons including relative prices. Waste in the U.S. economy is well-known—we have been labeled the "throw-away" society.

Figure 1 shows the various components of the CPI (December 1, 1978 through November 31, 1979). Noteworthy is the fact that only two factors (shelter 17.3% and energy 38.5%), exceeded the CPI of 13.5% for that time period. The very rapid increase in oil prices has caused a significant drop in consumer use. Thus, the consumer pattern of oil product use (heating, travel, electric) in 1979 was *below* that of the CPI base year 1972-73. Use of the 1979 use pattern in calculating the 1979 CPI would yield a lower number. Much of our energy resource has been used inefficiently in the past because it was relatively inexpensive. Following an economics model, as prices rise rapidly, efficiency will increase and usage rates will continue to decline. Thus, the impact on the CPI will continue to decrease. It appears that no one has reported a definite figure for this reduction but it should be about 0.3 for 1979.

A much larger factor is home ownership. The CPI treats homes as consumables and charges the entire cost (i.e., purchase price plus all mortgage interest over the mortgage life) in the year of purchase. No allowance is made for

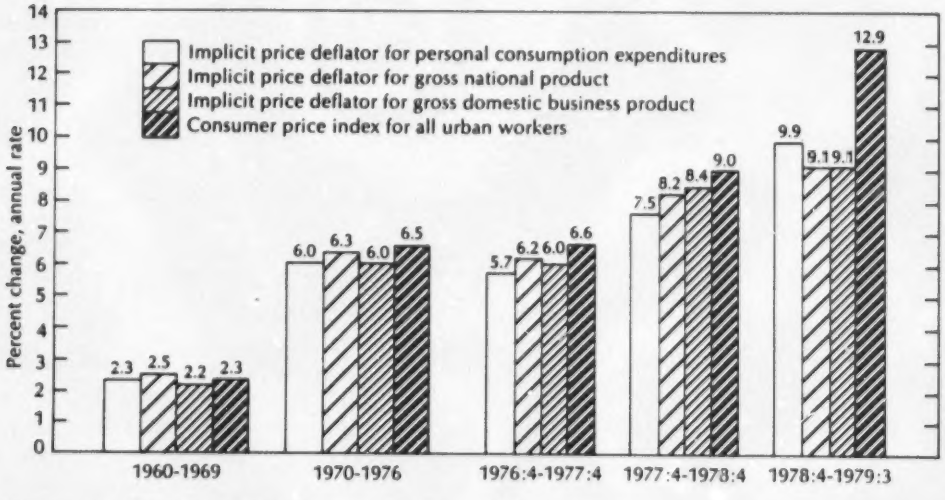
Figure 1: Consumer price increases by category, 1979

Percent increase from December 1978 through November 1979, expressed at annual rates. Except for Energy category, data are seasonally adjusted.



Source: U.S. Department of Labor, Bureau of Labor Statistics

Figure 2: Comparison of alternative inflation measures



Sources: U.S. Department of Labor, Bureau of Labor Statistics; U.S. Department of Commerce, Bureau of Economic Analysis.

the tax advantages from interest and local tax payments which are substantial. The increasing asset value of homes is ignored. Table 2 provides 1978 and 1979 changes in the factors composing the CPI shelter index. Interest costs were the largest and rental increases were *less* than the final CPI. It should be noted that in 1978 home ownership was responsible for 2.9 units of the 9.0 total CPI but in 1979 the contribution was 4.6 of the final 13.3 CPI. According to the Congressional Budget Office (Rivlin, 1980): ". . . probably not more than half of this represents an increase in the cost of living for most people."

Table 2: Rate of change of CPI shelter prices

Percent change at annual rate, seasonally adjusted.

	December 1977 to December 1978	December 1978 to November 1979
Shelter	11.1	17.3
Home purchase	11.3	16.0
Mortgage interest costs*	22.0	34.2
Taxes and insurance*	−0.7	6.2
Maintenance and repairs	10.2	10.0
Residential rent	7.4	8.2
Other rental costs	12.7	12.8

**Data not seasonally adjusted.*

Source: U.S. Department of Labor, Bureau of Labor Statistics.

There are alternative measures of inflation. Three of them are shown compared to the CPI in Figure 2. The implicit price deflator for Personal Consumption Expenditures (PCE) may be the most suitable. It utilizes current consumer consumption patterns and rental equivalence for the shelter measure. From December 1, 1978 through November 30, 1979 the PCE increased by 9.9 whereas the CPI was 12.9. This problem associated with price indexing has been recognized as serious by Representative Paul Simon (D-Ill.) and eleven other Congressmen (both Democrats and Republicans) who wrote President Carter recommending that he appoint a team of economists to propose a change for implementation January 1, 1981.

From the preceding discussion of professional earnings comparisons and the critique of the Consumer Price Index, it appears that faculty total professional earnings may not be so far out of keeping with those of other professionals. Perhaps higher education's concerns should be directed first to how faculty are paid for the total range of their professional activities and second, to the implications for the future of a continued decline in the basic university salary component of these earnings.

For what activities do faculty perceive they receive economic rewards and what sources fund these rewards? Despite the tradition we have established in looking at base institutional salaries for nine-month employment, we have noted that for many faculty such earnings constitute on average only 80-85% of total professional income (Marsh and Dillon, 1980). Total financial rewards associated with a profession's economic status must be examined, especially if academics are to be compared with other professionals.

For most academics the university is the primary employer, but for many there are a variety of other activities to which time is committed and from which earnings are derived. These activities present opportunities for professional and financial rewards, and they influence faculty priorities and time allocation. The amount and extent of outside activities vary among the different types of colleges and universities but survey data show that such activities are widespread (Marsh and Dillon, 1980).

Academic employment is characterized by a very vague definition of workload. In addition to the time off for consulting or other outside work, overload (during the academic year) within the institution is common and summers are free for extra compensation at the institution or elsewhere. Furthermore in contrast to industry, intellectual property rights (copyrights, works of arts) generally belong to faculty members and royalties from inventions resulting from research done at university expense are usually shared rather generously with the faculty inventors.

According to the 1975 Ladd and Lipset Faculty Survey (Marsh, 1979) 85% of faculty at both doctoral and the broader group of doctoral, comprehensive, and liberal arts institutions earned some supplemental income in 1974, as indicated in Table 3. Although 55% of the doctoral institution faculty did some consulting, the percentage for the broader group of institutions decreased only to 49%.

Table 3: 1975 Survey of the American professoriate
(Ladd and Lipset)

1974-75 Salaries

Variable	Doctorate Institutions Mean	All Doctorate/ Comprehensive/ Liberal Arts Mean
Basic institutional income	$21,600	$19,400
Supplemental income	3,200	2,700
Total personal income	24,800	22,100
Total family income	28,700	25,400
Percent indicating any consulting in last two years	55%	49%
Percent indicating first or second largest source of supplmental income		
Summer teaching	27%	39%
Teaching elsewhere	10%	12%
Consulting	37%	29%
Private practice	7%	7%
Royalties	15%	12%
Lecture/speech fees	15%	13%
Research salaries	18%	14%
"Other" sources	20%	20%
No supplemental income	11%	11%

Teaching as a major source of supplemental income is more important at the non-doctoral institutions, whereas research salaries, consulting, and royalties (and perhaps lecture/speech fees) are more important at doctoral institutions.

It is not as though these "extra" activities are all external to the employing university. A study of eight AAU universities showed that in fiscal 1978, of the 2016 faculty on nine-month contracts studies, 73% earned an average of 21.5% of their base salaries from additional, compensated university activities. (Dillon et al. 1979). Supplemental institutional salaries were separately identified for the academic year and the summer. Within the summer period, the sources were identified as teaching, research, and "other." The study revealed large supplemental earnings differences by discipline. For example, only 35% of foreign language faculty received significant overbase and those that did averaged only 12.3% above base. Comparable figures for other disciplines included chemistry (80% with overbase averaging 22%), engineering (82% with overbase averaging 23%) and business (87% with overbase averaging 23%). It should also be noted that assistant professors, with lower base salaries, also have less institutional supplemental earnings (36% with no overbase compared to 26% associate professors and 28% professors).

Table 4 shows only five departments, representative of the eleven examined in the study. They include humanities, social and physical sciences, and professional schools. From this table, we can see that the ratio of summer salaries to academic year overbase ranges from 1.5 through 3.0. The lower ratios in business and psychology are indicative of higher amounts of overload teaching during the academic year. Interesting to note is that in some departments, academic year overbase exceeds the summer earnings of some of the humanities faculty (represented here only by English).

A breakdown of summer earnings is shown in Table 5. Differences are evident for all departments but business in the average earnings for teaching versus research. (Clearly student demand in business makes teaching a high priority). Generally, average earnings from research activities were higher than those received for summer teaching. These differences may be due to differences in funding bases: government for research versus summer tuition for teaching. Overall this study shows more professors in the sciences and professional fields are receiving academic year overload and summer salaries, and generally their earnings amount to larger percentages of their base salaries (which tend also to be somewhat higher).

These data comparing earnings from research versus teaching take on additional meaning when the findings from our work with the Ladd-Lipset data are recalled (Marsh and Dillon, 1980). While faculty who earned more supplemental income did more research and were no less involved in institutional affairs, they did spend less time teaching and were less interested in teaching relative to research. Furthermore, the income variable most negatively correlated with time spent teaching was not supplemental income, but base salary. These results do lend weight to an argument that faculty are more financially rewarded from *all* sources for more research and externally-related activities. The decline in real salary income only intensifies the implications of this reward structure.

If financial incentives are such that traditional institutional activities appear to be rewarded less than in previous years while "extra" activities result not only in more competitive earnings but also in higher institutional salaries, many faculty will reach the conclusion that their universities *want* them to be involved in an increased share of supplemental professional work. In fact, comparison of proportional numbers of four-year college faculty involved in consulting for pay indicates this is exactly what has been happening over time. According to survey responses

Table 4: Overbase salaries, 1977-78

Mean overbase salaries by discipline, rank, and source for nine-month faculty at eight research universities who earned institutional "overbase" salaries (1977-78)

Discipline/ Rank[1]	N	Salary	Average overbase earned: Academic Year[2] $	(N)	Summer[2] $	(N)
English	134	20,846	1,477	(67)	3,187	(96)
Professor	54	26,311	1,958	(29)	4,345	(39)
Associate	48	18,853	1,175	(23)	2,852	(34)
Assistant	29	14,735	1,112	(12)	1,695	(21)
Psychology	148	22,553	2,345	(56)	3,506	(88)
Professor	44	29,330	3,014	(12)	4,827	(27)
Associate	54	20,368	3,249	(20)	2,917	(30)
Assistant	48	19,135	1,303	(23)	2,956	(30)
Physics	105	25,353	1,676	(15)	5,116	(101)
Professor	74	28,291	2,044	(12)	5,865	(71)
Associate	21	19,116	n/a*	(2)	3,255	(21)
Assistant	10	16,710	n/a*	(1)	3,549	(9)
Business	256	24,684	3,444	(107)	5,154	(145)
Professor	88	29,927	4,249	(42)	6,410	(51)
Associate	92	22,985	3,225	(37)	4,600	(46)
Assistant	58	20,446	2,523	(23)	4,520	(39)
Engineering	438	24,528	1,685	(154)	5,275	(407)
Professor	257	28,062	1,683	(89)	5,806	(241)
Associate	117	20,750	1,583	(33)	5,128	(180)
Assistant	60	17,323	1,845	(31)	3,462	(54)

[1] *Instructors omitted.*

[2] *Mean salaries are for those faculty receiving overbase from source indicated.*

* *Data omitted; fewer than five faculty in category.*

Source: Dillon et al., 1979.

Table 5: Summer earnings, 1977-78

Mean summer earnings by discipline, rank, and source for nine-month faculty at eight research universities employed in the summer (1977-78)

Discipline/ Rank[1]	Base salary	Average summer earnings: Teaching[2] $	(N)	Research[2] $	(N)	Other[2] $	(N)
English	20,846	3,126	(84)	1,671	(16)	1,388	(12)
Professor	26,311	4,168	(36)	1,835	(5)	1,462	(7)
Associate	18,853	2,808	(29)	1,618	(7)	n/a*	(4)
Assistant	14,735	1,598	(17)	n/a*	(4)	n/a*	(1)
Psychology	22,553	2,441	(55)	4,203	(38)	2,429	(6)
Professor	29,330	4,638	(15)	5,300	(13)	n/a*	(1)
Associate	20,368	2,768	(21)	2,978	(9)	n/a*	(2)
Assistant	19,135	1,613	(16)	3,576	(15)	n/a*	(3)
Physics	25,353	3,314	(26)	5,586	(74)	2,855	(6)
Professor	28,291	3,943	(18)	6,296	(53)	n/a*	(4)
Associate	19,116	1,919	(7)	3,645	(14)	n/a*	(1)
Assistant	16,710	n/a*	(1)	4,093	(7)	n/a*	(1)
Business	24,684	4,127	(89)	4,505	(76)	932	(24)
Professor	29,927	5,114	(32)	5,061	(31)	1,271	(5)
Associate	22,985	3,694	(34)	3,936	(19)	1,124	(10)
Assistant	20,446	3,700	(18)	4,296	(25)	289	(8)
Engineering	24,528	3,756	(191)	4,649	(295)	1,219	(48)
Professor	28,062	3,954	(94)	5,209	(190)	1,400	(27)
Associate	20,750	3,921	(62)	3,989	(74)	978	(16)
Assistant	17,323	2,930	(35)	2,797	(29)	n/a*	(3)

[1] *Instructors omitted.*

[2] *Mean salaries are for those faculty receiving overbase from source indicated.*

* *Data omitted; fewer than five faculty in category.*

Source: Dillon et al., 1979.

from 1962 and 1975, the proportion of faculty doing paid consulting increased from 13% to 48%. Hansen (1979) speaking for the AAUP, reinforces this phenomenon as one warranting concern: "More serious, perhaps, will be efforts of individuals to cope with relatively lower real salaries by seeking other employment opportunities to supplement their incomes. Some of these outside money-making activities may be professionally related whereas others will not be." He also states "... we can anticipate some erosion of spirit that is bound to affect the quality of performance by faculty members," and he warns that faculty may seek "... to adjust by reducing the quantity and quality of their work."

If this message is *not* one universities intend to convey, new concerns about faculty compensation must arise. That nine-month salaries are not keeping pace with inflation should probably be secondary to the concern that faculty financial rewards are derived from a patchwork of salaries, overload, summer, and outside work. This practice leaves a faculty member with a sense of multiple employers (even when the checks are from his or her own institution). It probably also leaves little sense of overriding academic objectives.

A more comprehensive and coordinated set of priorities on the university's part could be developed, along with the reward system to implement it. It is time for open recognition that faculty generally do work more than a nine-month, "school" year and it is important to understand that their earnings are the result of an intentional, recognizable reward system. We should not refuse to face the real issues. Productivity is no less an important problem in education than in our economy in general. The diverse pattern of faculty salary sources is evidence to our productivity problem. We must study this problem and find more appropriate answers. We need less rigid academic boundaries, and more resources and rewards for education that compare favorably with those currently available for research. The electronic revolution in educational delivery systems and the widespread and increasing educational activities outside of academe require our urgent attention.

If our unique contributions to education are to be continued and enhanced, our reward and compensation policies must be revised. The most urgent need appears to be for full-time faculty positions coupled with competitive full-time salaries and commitment to institutional goals. Such positions would, by design, be supported by a reward structure linked with academic goals and supportive of an environment more conducive to academic freedom, teaching, and service to society.

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The Economic Decline of the Professoriate in the 1970's:

What Happened to Faculty Salaries and What Are the Implications?

Peggy Heim

When inflation occurs, people become increasingly concerned about changes in their real income—both their own income and, perhaps more importantly, the income of their reference group compared to others. Of course, it is one thing if all groups fall behind together and a quite different matter if some fare much wrose than others. This paper addresses the question, what has happened to faculty salaries?

More specifically, this study has two parts. The first part, the statistical section, shows in a general way what has happened to the economic position of faculty in the 1970's (see Table 1). It concludes that deep erosion has occurred in a short span of time. The second part discusses the implications of the erosion in faculty salaries for higher education as a whole, for the institutions, and for the people in them. The first part addresses the following questions:

- To what extent have faculty salaries failed to keep up with the advance in the cost of living and what are the near-term prospects?
- How have faculty fared compared with other groups?
- Are faculty salaries in danger of becoming non-competitive?

Faculty salaries adjusted for price changes

Choice of a deflator. In comparing salaries over time not only must salary increases be taken into account, but also price changes. The adjustment for price changes has generally been made by restating current-dollar salaries into salaries of constant dollars, traditionally by using the Consumer Price Index (CPI) as the deflator. The CPI measures the change in cost of a defined standard of living reflecting a composite pattern of expenditures of urban consumers. The weights remain fixed over time until the index is formally revised, an expensive and laborious procedure.

Although the CPI has come under fire in the last few years on the grounds that it exaggerates inflation, this study will use the CPI "all items" as its primary deflator. This choice is made for two reasons. Although there are indeed problems with the CPI (primarily in the shelter component), the index most frequently proposed as the substitute—the GNP implicit price deflator for Personal Consumer Expenditures, the PCE—has equally serious deficiencies for the purpose of

Peggy Heim is senior research officer at Teachers Insurance Annuity Association. The author would like to acknowledge the help of Steven Weisbart of TIAA in reading manuscript, Martin Karlin of the New York office of the Bureau of Labor Statistics for supplying materials beyond the call of duty, and Barbara Fox of TIAA in ways too numerous to mention.

Table 1: Deterioration in the economic position of academics since 1972-73

Average salary of full-time faculty with rank; indices of consumer prices, average salary of faculty in current dollars and in constant dollars, and estimates for 1979-80 and 1980-81, with 1972-73 as base year; and percentage change since 1972-73 in constant-dollar salaries

		Indices			
Year	Average faculty salary	Consumer prices	Salary in current dollars	Salary in 1972-73 dollars	Change since 1972-73 in salaries of constant-dollars
1972-73	$14,552	100.0	100.0	100.0	0%
1973-74	15,459	109.0	106.2	97.3	− 2.7
1974-75	16,403	121.1	112.7	93.1	− 6.9
1975-76	17,450	129.6	119.9	92.5	− 7.5
1976-77	17,930	137.1	123.2	89.9	−10.1
1977-78	18,897	146.3	129.9	88.8	−11.2
1978-79	20,120	160.1	138.3	86.4	−13.6
1979-80 est.	21,530e (+7.0%)	180.9e (+13.0%)	148.0e	81.8	−18.2
1980-81 est.	23,040e (+7.0%)	199.0e (+10.0%)	158.3e	79.5	−20.5

e—estimate

Average salaries for full-time faculty with rank are taken from *Academe, Bulletin of the AAUP*, September, 1979, p. 325. They represent 9-10 month or academic-year salaries. Indices of consumer prices are calculated for the fiscal year, July through June. All indices use 1972-73 as base. Estimates assume consumer prices increase 13% from '78-79 to '79-80 and 10% from '79-80 to '80-81; average salaries, 7.0% each year—this is almost 1.5 percent more than the compound rate of increase 1972 to 1978.

measuring changes in the cost of living or the purpose of adjusting income levels.[1] At this writing no other precise deflator exists with the necessary features for these purposes.

A second reason for staying with the CPI is that this index is used to adjust for inflation the incomes of many people. As the report from the Congressional Budget Office indicates, "more than one-quarter of the U.S. population has at least a portion of its income formally indexed to the CPI, including 34 million Social Security recipients, 3 million federal and military retirees, and 9 million wage earners. The wages paid to many other workers are informally indexed to the CPI."[2] Under these circumstances if higher education links its salaries to an index with milder inflation than that used by government, industry, and others, faculty can hardly fail to lag in economic status.

For those who would like to see the average salary for faculty restated in constant dollars with different deflators, a comparison table is provided (Table 2).[3] The deflators used include the standard CPI ("all items"), the CPI "all items less shelter," and the GNP implicit price deflator for Personal Consumption Expenditures (the PCE). Unless otherwise stated, however, we follow the convention, referring to the standard CPI when we talk about changes in the cost of living.

Table 2: Percentage decline—actual and projected—since 1972-73 in average constant-dollar salary for full-time faculty with selected indices as deflators

Based on salaries in constant 1972-73 dollars

	Consumer Price Index		
	All items	All items less shelter	PCE *
1978-79	−13.6%	−11.4%	− 9.5%
1979-80	−18.3	−15.1	−12.3
1980-81	−20.5	−16.6	−12.9

** GNP implicit price deflator for Personal Consumption Expenditures*

The findings. Now let us see how well or how poorly faculty salaries have kept up with the cost of living. Between 1972-73 and 1978-79 the average full-time faculty academic-year salary adjusted for consumer price changes by the standard CPI declined about 13 percent (as shown in Table 1).[4] Although changes are not shown for the academic ranks in tabular form, the decline for the three upper ranks was slightly greater—16 percent.

Projections for the next few years seem even more depressing. From 1972-73 to 1978-79 the average salary in current dollars increased somewhat less than 6 percent per year compounded annually. If average salaries rise a bit more than in the past, say 7 percent a year, and consumer prices 13 percent the first year and 10 percent the second year, by 1980-81 the average salary of faculty in constant dollars will be worth about 20 percent less than it was eight years earlier. For the three upper ranks, the erosion will be slightly more than that.

If other indices are used as the deflator, the erosion is still severe, but less pronounced (as shown in Table 2). Even if one uses the GNP implicit price deflator PCE—the least extreme of the deflators—the average salary for full-time faculty in constant dollars fell almost 10 percent in a six-year period. If the projections hold to 1980-81, the average salary for faculty may lose anywhere from one-eighth to one-sixth of its purchasing power (the PCE and "all items less shelter" respectively) in an eight-year span. Regardless of the index used as the deflator, the sharp increase in prices, combined with the sluggish growth of faculty salaries, has put academic pay in an economic sink.

The next relevant question is, how have faculty fared compared with others in the 1970's? Have all groups lagged behind the cost of living proportionately?

Advances in salaries of faculty compared with those of other groups

This report does not attempt to cover the field of comparative salaries and salary changes as extensively as the excellent study by Howard Bowen, *Academic Compensation*, published in 1978.[5] It merely tries to highlight some of the developments that have occurred since 1976-77, the terminal date of Bowen's data.

Some general comparisons. In brief, the situation between 1972-73 and 1978-79—our reference period—might be described as follows. In manufacturing, average weekly earnings in constant dollars declined in the mid-1970's, and then recovered the lost ground. In the federal government, remuneration for the higher level

administrative positions failed to kep pace with the cost of living. Average salaries for the classifications GS-11 through 15 rose a bit higher than average salaries in the three professional ranks, but they, too, fared poorly.[6]

Comparisons with professional and administrative positions in industry. As indicated by data collected by the Department of Labor, average salaries in industry for positions above the starting level progressed more rapidly than for faculty. In almost half of the 36 professional and administrative classifications, the increases in average salary about kept up with inflation, and all but one (Job Analyst II) advanced noticeably faster than the pay for faculty[7] (data derived from Table 3). While the average salary for all faculty in constant dollars fell about 13 percent short of that necessary to keep up with inflation, the 36 administrative and professional positions lost, on the average, 4 percent of their purchasing power when deflated by the standard CPI. By comparison, academics putted along on a very slow track.

Are faculty salaries becoming non-competitive?

Young faculty members in humanities, education, and social sciences beginning a teaching career in the fall of 1978 often received starting salaries of $12,500 to $14,000 unless they landed the hard-to-obtain positions in research universities and better-paying state colleges. After two or three years of graduate study and perhaps all doctorate work completed but the dissertation, beginning faculty might get barely more, or even noticeably less than, the average salary offered that year by industry recruiters touring the campuses (Table 3).

Not only do faculty start at low salaries, considering the amount of post-baccalaureate education required, but they seem to progress more slowly than many college graduates in business and industry. The existence of a differential is not new. What is new is the current magnitude of the divergence and the speed with which the differential has increased. Based upon salaries reported in the 1973 Endicott survey, *Trends in the Employment of College and University Graduates,* college graduates hired five years earlier in industry earned, on the average, in 1973 about 10 to 16 percent more (depending on the field) than the average salary paid that year for assistant professors. By 1979 that differential had widened appreciably: industry was paying 20 to 25 percent more than the average academic-year salary for assistant professors.[8]

Before leaving the subject, are faculty salaries in danger of becoming non-competitive, we should say something about remuneration in the higher academic ranks. We stated earlier that average salaries in industry did a much better job keeping up with inflation than those for faculty. Table 3 shows industry salaries as a relative of the average salary for full professor in 1973 and again in 1979. The extent to which remuneration levels in industry gained ground relative to the average salary for professors has frightening implications, particularly if the trend is not halted: Chief Accountant I, 82 percent of the average salary of professor in 1973, 99 percent in 1979; Attorney IV, 125 percent in 1973, 143 percent in 1979.

Whether one looks at the very high level positions or those farther down the scale, or whether one relates them to the average salary for professors or for associate professors, the same disturbing relationships appear. The deterioration in faculty salaries relative to those in industry has become alarming.

We have seen that considerable erosion has occurred in the economic status of the academic profession. In brief, the average academic-year salary for faculty has done a poor job of keeping up with inflation, regardless of which index is used as the deflator or whether we talk about all faculty combined or

Table 3: Comparisons with professional and administrative positions in industry

Position*	Average salary in current dollars[8]		Industry salary as a relative of average salary for full professor	
	1973	1979	1973	1979
Accountant II (5)	$10,932	$16,704	55.3	63.1
III	12,468	19,464	63.1	73.5
IV	15,072	24,048	76.3	90.9
Auditor II (4)	11,364	16,488	57.5	62.3
III	13,572	20,304	68.7	76.7
IV	16,668	24,696	84.4	93.3
Chief Acct. I (4)	16,224	26,275	82.1	99.3
II	18,636	29,604	94.4	111.8
III	22,692	36,564	114.9	138.1
IV	26,736	45,276	135.4	171.0
Attorney II (6)	15,552	23,472	78.7	88.7
III	19,560	29,640	99.0	112.0
IV	24,696	37,812	125.0	142.8
V	30,036	45,600	152.1	172.3
VI	37,044	56,964	187.6	215.2
Buyer II (4)	11,436	17,112	57.9	64.6
III	13,836	21,204	70.1	80.1
IV	16,428	25,512	83.2	96.4
Job Analyst II (3)	11,004	15,336	55.7	57.9
III	13,056	20,100	66.1	75.9
IV	16,212	24,228	82.1	91.5
Dir. of Personnel I (4)	14,748	22,992	74.7	86.9
II	17,748	27,984	89.9	105.7
III	21,984	34,284	111.3	129.5
Chemist III (8)	13,212	21,024	66.9	79.4
IV	16,140	25,464	81.7	96.2
V	19,308	30,828	97.8	116.5
VI	22,596	35,232	114.4	133.1
VII	26,904	42,012	136.2	158.7
VIII	32,100	48,960	162.5	185.0
Engineer III (8)	$14,328	$21,936	72.5	82.9
IV	17,028	25,992	86.2	98.2
V	19,620	30,468	99.3	115.1
VI	22,584	34,800	114.3	131.5
VII	25,680	39,336	130.0	148.6
VIII	29,496	45,216	149.3	170.8

Table 3 (continued)

Position*	Average salary in current dollars [8]		Industry salary as a relative of average salary for full professor	
	1973	1979	1973	1979
Faculty				
Instructor	$ 9,873	$13,420	50.0	50.7
Assistant Professor	12,289	16,370	62.2	61.8
Associate Professor	14,887	20,020	75.4	75.6
Professor	19,751	26,470	100.0	100.0
All Faculty	14,552	20,120	73.7	76.0

*The various grades for each occupation are designated by roman numerals. In most cases there are four to eight grades for a given occupation. Numbers in ( ) indicate the number of grades for each occupation. In general, grade I refers to an entry-level position involving a relevant baccalaureate degree or equivalent experience, minimal responsibility, and considerable supervision and is therefore not usually reported in this table. Grade IV represents a senior position involving considerable experience and responsibility and supervision of others. Attorneys require a law degree for entry.

each of the three professorial ranks. It has done poorly in keeping up with the average salary in most other positions with which we have been able to make comparisons. Moreover, given the number of years of post-baccalaureate education required for college teaching and years of experience needed to reach different salary levels (e.g., average salary for associate professor), individuals could do very much better financially electing some other profession, such as law, accounting, finance, or business administration, and some other career path than college and university teaching.

Now let us see how the erosion in the economic position of academics may affect higher education generally, the institutions, the individuals in them (primarily the administrators and faculty), and the publics served by them.

Some implications of the deteriorating economic position of the professoriate

When the compensation of a corps of professional persons declines relative to the general price level and also relative to the compensation of persons in comparable occupations, the effects are bound to be adverse upon the individuals involved, upon the institutions they serve, and upon society. These effects have been all too easy to observe as the relative pay of faculty has steadily declined over the past decade.

A major effect is simply to discourage the entry of bright and able people into the profession. As one looks back over the history of recruitment into various professions in the past half century or more, in the 1920's business drew the best talent, in the 1930's and 1940's government was the magnet for many of the ablest people; in the 1950's and 1960's higher education captured the interest of many of the most capable; in the 1970's the independent professions of law, medicine, and business were most attractive. All of these professions need able people. No profession has, or should have a monopoly. And no one argues that higher education should have priority over the others. But higher education should have

its share, and it cannot attract its share without reasonably competitive compensation.

A second effect of low pay is that it contributes to poor morale. Young people aspiring to the professoriate are already asked to bear a lot—anxiety and uncertainty, laborious and painful job searches, and involuntary nomadism as they are shunted from one temporary job to another. These disadvantages are combined with a further drawback—inadequate compensation when they are fortunate enough to find positions. Across the board in all stages of the career cycle, faculty members see others who have gone the route of other professions receiving notably better pay and enjoying a more enriched existence. They think they are poorly paid or poorly valued, and this affects the way they perform their job, their creativity, view-of-self, view-of-others, and view-of the world. All this can be summed up as failure of morale with attendant loss of effectiveness.

Another effect of low income is to encourage and force faculty members to supplement earnings through moonlighting. Though outside work may in some cases enrich experience and contribute indirectly to the university and directly to society, in many cases it detracts from the quality of teaching and research. The things faculty like to do least, like grading essay questions and critiquing term papers, or things that can be postponed, like up-dating lecture notes or reading extensively in professional journals, or things that can be given short-shift, like advising and helping students with their work, may be the activities that suffer most. Or there may be some other pattern used in reallocating energies. But whatever the response, outside work may in many cases, tend to impair the quality of the education obtained by the students—or at least their perception of this education.

When faculty members believe that they cannot improve their condition with measures short of forceful pressure, they may seek a remedy through collective bargaining. The drive towards collective bargaining diverts the energy of both faculty and administrators away from other constructive pursuits, such as excellent teaching and program improvement; it splits faculties into rival groups, and it undermines faculty and administrative teamwork. In the absence of collective bargaining, faculty dissatisfaction may manifest itself in other outlets—neglect of duty, pessimism, half-hearted cooperation, foot-dragging, intensified complaining, and resentment of the administration. As organizational behaviorists note, in such malaise, administrators may have difficulty in determining the real source of the trouble. The alleged complaints may not be the basic cause of the dissatisfaction or primary and secondary reasons may be so confused that administrators cannot identify and address the underlying cause of the disaffection.

Low salaries may also encourage or force faculty members to delay retirement, thus closing opportunities for employment or advancement of younger colleagues and reducing the number of younger persons in the professoriate.

Finally, perhaps the most important effect of all is that low relative compensation drives able people—often the very ablest—out of the professoriate to business, government, and the independent professions. Contrary to general impressions, many faculty members are potentially quite mobile. Virtually all of the professors in the professions of medicine, dentistry, pharmacy, law, business, social work, engineering, journalism, etc. are readily employable outside academe. So are many professors of economics, psychology, physical and biological sciences, art, and many other fields. Most of the professoriate prefer academic careers and most are loyal to the institutions, but as the economic base of the profession is steadily eroded away, increasing numbers will be lured away, among them, the ablest and most energetic.

For all these effects to work, considerable time is required. We have already

experienced almost a decade of steady erosion of relative academic pay. If the same erosion continues, it will not take many more years to see a significant exodus of talent from the profession and to see other unwanted consequences become increasingly troublesome.

Notes

1. The reader is referred to the reference given below on the CPI controversy and on the Department of Commerce implicit price deflator, PCE. Basically the disadvantages of the PCE revolve around shifting weights, when the objectives served by the CPI call for constant weights, and the use of the CPI rental index to measure the value of owner-occupied housing.

2. U.S. Congress, Congressional Budget Office, *Entering the 1980s: Fiscal Policy Choices,* A Report to the Senate and House Committees on the Budget—Part I, (Washington, D.C.: U.S. Government Printing Office, January 1980), p. 98.

3. In this writer's view, the best easily available index to show what has happened to real income in the 1970's and in 1980 is probably the CPI without shelter, perhaps with some slight upward adjustment. The standard CPI has two very troublesome components—home purchase and contract mortgage interest costs—which distort the index noticeably. To the extent that mortgage interest rates fall and economic contraction levels off, and perhaps even depresses, the price of residential real estate, the distortion in the CPI "all items" index will decline. Thus, as time goes by, the standard CPI should become a better (that is, less distorted) measure of long-run changes in the cost of living. But this very feature will cause a new distortion in the standard CPI as a measure of short-run change in the cost of living. Just as it overstated inflation on the way up, the same features of the CPI will understate inflation on the way down. There is, unfortunately, no easy solution to the index dilemma, only problems whichever way one turns.

4. The faculty salaries used throughout this paper refer to the academic-year.

5. Howard R. Bowen, *Academic Compensation: Are Faculty and Staff in American Higher Education Adequately Paid?* (New York: Teachers Insurance and Annuity Association, 1978).

6. Average salaries for GS-11 through 15 increased at rates ranging from 37 to 43 percent, while average salary for all faculty increased 38 percent in this six-year period. Average salaries for GS-11 through 15, March 1973 and March 1979, were taken from U.S. Department of Labor, Bureau of Labor Statistics, *National Survey of Professional, Administrative, Technical, and Clerical Pay, March 1973,* pp. 13 and *67, March 1979,* pp. 13 and 69. (Washington, D.C.: U.S. Government Printing Office.)

7. If the decline in average salary stated in constant dollars did not exceed 3 percent (or more precisely, 3.4 percent), the average was considered to have "about kept up with inflation." The CPI index for 1978-79 given in Table 1 (160.1) was used as the deflator.

8. Indices of consumer prices are calculated for the fiscal year, July through June, using 1972-73 as base. Faculty data are taken from the AAUP, Annual Reports of Committee Z; other positions from U.S. Department of Labor, Bureau of Labor Statistics, *National Survey of Professional, Administrative, Technical, and Clerical Pay, March 1973,* p. 13 and *March 1979,* p. 13.

9. Frank S. Endicott, *Trends in the Employment of College and University Graduates in Business and Industry,* Annual Reports for 1973, p. 6, and 1979, p. 7. Faculty

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